

### **REMARKS**

In view of the following remarks, the Examiner is requested to reconsider and allow Claims 1 -34, as well as newly presented Claims 35 to 40, the only claims pending and under examination in this application.

New Claims 35 to 40 find support in the specification at page 6, lines 2 to 7; page 7 lines 3 to 15; page 7, lines 20 to 24 and in the Experimental section at page 9. As these new claims introduce no new matter to the application, their entry by the Examiner is respectfully requested.

The Examiner is thanked for withdrawing all of the previous rejections of record.

### **CLAIM REJECTIONS – 35 U.S.C. §103**

Claims 1 –3, 5-8, 10-12 and 24 – 33 remain rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bockow (USPN 5,709,855) in view of Edwards (USPN 5,989,559).

The pending claims are directed to methods of ameliorating a symptom, e.g., treating pain, of Carpal Tunnel Syndrome (CTS) by topically applying an NSAID formulation to a palmar dermal surface.

As developed below, the claims are not obvious over the cited combination of references because the cited combination of references does not provide one of ordinary skill in the art with predicted success in the claimed methods.

The “predicted success” of a combination of elements is an important factor in determining obviousness. This principle is illustrated in *three* Supreme Court<sup>1</sup>[1] cases

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decided prior to *KSR*, and is a recurring theme of *KSR*. For example, in *KSR* the Supreme Court stated that in order for a combination of elements to be patentable “the combination must do more than yield a predictable result”. 2[2] Likewise, the corollary principle, namely that “The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results”3[3] is also discussed. The Supreme Court in *KSR* also stated that that “a court *must* ask whether the improvement is more than the predictable use of prior art elements according to their established functions”.4[4]

Thus, according to the Supreme Court, an analysis of the “predictable success” of a combination of known elements may be used to separate patentable combinations (e.g., a battery that contains water, in the case of *United States v. Adams, supra*) from those that are unpatentable (e.g., an adjustable pedal having a fixed pivot point and a sensor, in the case of *KSR, supra*).

This requirement of predicted success has been endorsed by the Patent & Trademark Office. According to the post-*KSR* Patent Office promulgated examination guidelines on determination of obviousness, when office personnel reject claims by attempting to combine prior art elements according to allegedly known methods to yield predictable results, the Office must resolve the *Graham* factual inquiries and articulate:

(1) “a finding that the prior art included each element claimed, although not necessarily in a single prior art reference, with the only difference between the claimed invention and the prior art being the lack of actual combination of the elements in a single prior art reference;”

(2) “a finding that one of ordinary skill in the art could have combined the elements as claimed by known methods, and that in combination, each element merely would have performed the same function as it did separately; and”

(3) “a finding that one of ordinary skill in the art would have recognized that the results of the combination were predictable.” (Federal Register / Vol. 72, No. 195 / Wednesday, October 10, 2007 / Notices at 57529, *citing KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1395 (US 2007)).

At the outset, it is noted that neither Bockow nor Edwards provide any actual results of the application of a topical formulation, where the sole active medication is an NSAID, to a palmar dermal surface to treat carpal tunnel syndrome. The topical formulations of Bockow are ones that must include both an omega fatty acid and spirulina. Although the Examiner references a section in which Bockow mentions the inclusion of NSAIDS in the formulations, this particular disclosure is merely that NSAIDS may optionally be included in addition to the omega fatty acid and spirulina. Edwards' formulations are ones that contain a banana peel extract.

As established during in the Applicants' prior response and declarations of record in this application: Carpal Tunnel Syndrome and musculoskeletal disorders are entirely distinct pathologies.

As stated in the prior filed 1.132 declaration of record by Dr. Galer:

3. In contrast to musculoskeletal disorders which are the target pathology in the Petrus reference, Carpal Tunnel Syndrome is not a species of musculoskeletal disorders. Rather, Carpal Tunnel Syndrome is a condition whose symptoms are caused by a disturbance of median nerve function in the wrist as the nerve passes through the carpal tunnel. As such, the pain and symptoms caused by Carpal Tunnel Syndrome do not arise from the musculoskeletal system. Instead, the pain, parasthesia, and dysesthesia arise from direct trauma and dysfunction to the median nerve within the carpal tunnel.

As also established in prior 1.132 declarations of record in the present application, since the symptoms arising from carpal tunnel syndrome are distinct from those arising from musculoskeletal disorders, one of skill in the art would generally use different approaches for treating carpal tunnel syndrome as opposed to musculoskeletal

disorders. See e.g., the following excerpt from the 1.132 declaration of record filed on June 5, 2006:

6. Accordingly, in view of the difference in classification of musculoskeletal disorders and Carpal Tunnel Syndrome, those of skill in the art would approach the treatment of neuropathic pain conditions, of which Carpal Tunnel Syndrome is a member, differently from how they would approach the treatment of musculoskeletal pain disorders. In general, different classes of medications are prescribed for the treatment of neuropathic pain conditions as compared to the treatment of musculoskeletal pain disorders. See for example Exhibits C and D.

a. Exhibit C is an excerpt from an article entitled: Algorithm for Neuropathic Pain Treatment: An Evidence Based Proposal. The article sets forth a comparison of the various treatments used in the amelioration of neuropathic

pains. Among the treatments used to remedy neuropathic pains are antidepressants (section 3.2) and anticonvulsants (section 3.3). See Finnerup, N. B. Pain 2005; 118:289-305 at page 290.

b. Exhibit D is an excerpt from the book entitled: Evidenced-Based Management of Acute Musculoskeletal Pain. The excerpt sets forth various treatments recommended for the management of acute musculoskeletal pains. The excerpt specifically points out that there is no evidence that supports the use of anti-depressants or anticonvulsants in the treatment of acute musculoskeletal pain. See page 22.

c. Accordingly, as can be seen with reference to Exhibits C and D, one of skill in the art would approach the treatment of a neuropathic pain differently from how they would approach the treatment of a musculoskeletal pain because in the treatment of a neuropathic pain one of skill in the art may recommend the administration of an anti-depressant or anticonvulsant where as for the treatment of a musculoskeletal pain one would not recommend the administration of an anti-depressant or anticonvulsant.

In addition, the 1.132 declaration filed by Larry Caldwell on April 26, 2005 established the following facts:

In the subject methods, the active agent must cross a barrier to reach the target site to be effective. Barriers are present in the area of the carpal tunnel/median nerve. The carpal tunnel is the interior of the wrist through which the medial nerve, tendons and blood vessels pass. Three sides of the carpal tunnel are bone and the other side is a thickened sheath, the flexor retinaculum, which is made of ligament material. Accordingly, for the subject methods to work, the target agent must cross this bone/ sheath barrier.

Furthermore, the active agent must penetrate deeply in order to reach a target site because carpal tunnel syndrome originates deep within the nerves of the wrist. Prior to my work in reducing the invention to practice, it was not at all certain that a sufficient amount of a given active agent would penetrate deeply enough to reach the target site.

The above facts provide anatomical and physiological reasons why one of skill in the art could not have predicted success in the claimed methods prior to actually performing the methods and obtaining results.

As such, declarations of record in the present application establish the following facts:

- 1) Carpal Tunnel Syndrome and musculoskeletal disorders have entirely distinct pathologies;
- 2) Because these two conditions arise from entirely distinct pathologies, those of ordinary skill in the art generally treat them differently; and
- 3) There are anatomical reasons why one of ordinary skill in the art would not predict success in the claimed methods without actually performing the method and obtaining positive results.

Based on the above facts, it is submitted that one of skill in the art could not have predicted success in the claimed methods based on the teachings of Bockow in view of

Edwards. One could not have predicted success based on the combined teachings of these references because:

- Bockow is directed primarily to treating musculoskeletal disorders with an omega fatty acid spirulina formulation;
- Bockow only provides actual exemplification in the treatment of musculoskeletal disorders; and
- Edwards only provides exemplification with banana peel extract compositions.

As such, one of skill in the art could not have predicted success in practicing the claimed invention in view of the references cited by the Examiner. Because the combined teaching of the cited references fails to provide one of skill in the art with a reasonable expectation of success in the claimed methods, as reviewed above, Claims 1 –3, 5-8, 10-12 and 24 – 33 are not obvious under 35 U.S.C. §103(a) over Bockow in view of Edwards and this rejection may be withdrawn.

Claims 4, 9, and 13 have been rejected 35 U.S.C. §103(a) over Bockow in view of Edwards and further in view of Hirano. In making this rejection, the Examiner asserts that Bockow in view of Edwards teach all of the elements of the claimed invention but for the topical patch, which element is made up by Hirano. However, as reviewed above, Bockow in view of Edwards fails to provide one of skill in the art with the requisite reasonable expectation of success in the claimed methods. As Hirano was cited solely for the patch element, Hirano fails to make up this deficiency in the primary references and this rejection may be withdrawn.

Claims 19-21 and 23 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bockow in view of Edwards and Shudo. As demonstrated above, Bockow in view of Edwards do not provide a reasonable expectation of success in the claimed invention. As Shudo was cited for its disclosure of kits containing topical patch formulations and instructions, it fails to remedy the defects of Bockow in view of

Edwards. Accordingly, the Applicants respectfully request the Examiner reconsider and withdraw this rejection.

Claim 22 is rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bockow in view of Edwards and Hirano and Shudo. As demonstrated above, Bockow in view of Edwards and Hirano do not provide a reasonable expectation of success in the claimed invention. As Shudo was cited for its disclosure of kits containing topical patch formulations and instructions, it fails to remedy the defects of Bockow in view of Edwards. Accordingly, the Applicants respectfully request the Examiner reconsider and withdraw this rejection.

Claims 24-28 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bockow in view of Edwards and Hirano and a bandage. As demonstrated above, Bockow in view of Edwards and Hirano do not provide a reasonable expectation of success in the claimed invention. A bandage does not make up this deficiency. Accordingly, the Applicants respectfully request the Examiner reconsider and withdraw this rejection.

Claims 30-33 are rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Bockow in view of Edwards and Liebschutz. As demonstrated above, Bockow in view of Edwards does not provide a reasonable expectation of success in the claimed invention. As Liebschutz was cited for the disclosure of a diclofenac patch, it fails to make up this deficiency. Accordingly, the Applicants respectfully request the Examiner reconsider and withdraw this rejection.

Finally, New Claims 35 to 40 are patentable for at least the reasons provided above.

**CONCLUSION**

The Applicants submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-0815, order number CALD-005.

Respectfully submitted,  
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Date: November 14, 2007

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